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Structure Monitor system

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention relates to a structure monitor system for measuring a physical quantity such as temperature, distortion or the like of a structure using an optical fiber sensor.

2. DESCRIPTION OF THE RELATED ART

In recent years, there have been developed structure monitor systems for measuring and monitoring a change in a physical quantity of a structure such as a tunnel, a bridge or a building using a distribution-type optical fiber sensor for measuring a distribution of the physical quantity such as temperature and distortion making the most use of properties of an optical fiber.

For example, Japanese Unexamined Patent Publication No. H11-287650 discloses a structure monitor system for detecting the deformation of a tunnel based on information from a distribution-type optical fiber sensor laid on the inner circumferential surface of the tunnel in a meandering manner along the longitudinal direction of the tunnel.

Specifically, this structure monitor system is constructed such that the looped optical fiber sensor, which is looped a specified number of times per unit looped section length, is laid along the longitudinal axis of the tunnel while reciprocating along the circumferential direction of the tunnel, and a distortion distribution meter is connected with one end of this looped optical